

### **IN THE SPECIFICATION**

Please insert the following at page 3 after the paragraph ending in the phrase “sensitive detector.” at page 3, line 10, and before the phrase “Detailed Description of the Invention” at page 3, line 11:

--- Brief Description of the Drawings

FIGURE is a flow chart of an example embodiment of the present invention. ---

Please insert the following at page 8 after the paragraph ending with the phrase “volatile component of the mine.” at page 8, line 31, and before the phrase “WE CLAIM”: “at the top of page 9:

---The flow chart illustrated in the FIGURE is initiated in block 12 with selecting a set of measurement locations. The flow chart then proceeds to block 14 with measuring the concentration of the emanations in the intervening medium at the measurement locations thereby providing a set of observed data. The flow chart then proceeds to block 16 with measuring the velocity of the intervening medium at a location. The flow chart then proceeds to block 18 with postulating a dispersion model that allows the calculation for a position of the concentration of the emanation arising there from a source. The flow chart then proceeds to block 20 with postulating a set of source models comprising source parameters. The flow chart then proceeds to block 22 with calculating with the dispersion model for each postulated source model the concentration that would arise at the measurement location(s) thereby providing a set of synthetic data for each postulated source model. The flow chart then proceeds to block 24 with comparing the set(s) of synthetic data with the observed data thereby obtaining the source model that gives the closest fit. The flow chart then proceeds to block 26 with outputting the position and emission rate of the at least one source assumed in the source model that gives the closest fit. ---